chemical equivalents rather as a specimen of a first attempt than as anything that can supply the want which must very quickly be felt, of a full and complete tabular account of this class of bodies. Looking forward to such a table as of extreme utility (if well constructed) in developing the intimate relation of ordinary chemical affinity to electrical actions, and identifying the two, not to the imagination merely, but to the conviction of the senses and a sound judgment, I may be allowed to express a hope that the endeavour will always be to make it a table of *real,* and not *hypothetical,* electro-chemical equivalents; for we shall else overrun the facts, and lose all sight and consciousness of the knowledge lying directly in our path.

581. The equivalent numbers do not profess to be exact, and are taken almost entirely from the chemical results of other philosophers in whom I could repose more confidence, as to these points, than in myself.

Oxygen..... 8
Chlorine 35.5
Iodine.....126
Bromine 78.3
Fluorine 18.7
Cyanogen.....26
Sulphuric acid . ..40

Hydrogen..... i
Potassium 39.2
Sodium..... .....23.3
Lithium 10
Barium..... .....68.7
Strontium..... 43-8
Calcium..... .....20.5
Magnesium.... .....12.7
Manganese.... .....27.7
Zinc..... .....32.5
Tin 57-9
Lead 103.5
Iron..... 28
Copper 31.6

582. TABLE OF IONS.

Anions.

Selenic acid 64
Nitric acid . 54
Chloric acid 75.5
Phosphoric acid ..35.7
Carbonic acid 22
Boracic acid....24
Acetic acid.....51

Cations.

Cadmium..... 55.8
Cerium ... 46
Cobalt..... 29.5
Nickel 29.5
Antimony..... 64.6?
Bismuth . . 71
Mercury ...200
Silver 108
Platina..... 98.6?
Gold..... (?)

Ammonia 17
Potassa..... 47.2

Tartaric acid...66
Citric acid.....58
Oxalic acid.....36
Sulphur (?) ...16
Selenium (?)....
Sulpho-cyanogen..

Soda 31.3
Lithia 18
Baryta..... 76.7
Strontia..... 51.8
Lime 28.5
Magnesia..... 20.7
Alumina .... (?)
Protoxides generally.
Quinia 171.6
Cinchona.....160
Morphia.....290
Vegeto-alkalies generally.

583. This table might be further arranged into groups of such substances as either act with, or replace, each other.

Thus, for instance, acids and bases act in relation to each other; but they do not act in association with oxygen, hydrogen,